# SPECIALIZED TRAINING PROGRAMS/COURSES APPROVED BY THE VIRGINIA BOARD FOR WATERWORKS AND WASTEWATER WORKS OPERATORS

#### **GENERAL INFORMATION**

- 1. The following programs have been specifically approved by the Board For Waterworks and Wastewater Works Operators (Board) to conduct training courses that may be substituted for some of the experience required to qualify to sit for the examination for a waterworks or wastewater works operator license.
- 2. Board uses the terminology "TC" for training credits as opposed to CEU's (Continuing Education Units) for the list
- 3. The titles of the approved courses offered by each sponsor are listed along with the number of Training Credits (TCs) awarded for successful completion of each course.
- 4. No credit can be given except for courses listed.
- 5. **Exception**: Courses provided by federal or state agencies, or by institutions, schools and universities approved by the State Council of Higher Education for Virginia, for which continuing education units are awarded, may qualify for TCs without prior Board approval. Those courses may not appear on this list. To receive credit for those courses a detailed hour-by-hour, course schedule and evidence of course completion must be provided with an application.
- 6. All certificates under the approved program may be used again as substitute for experience for a higher class license.
- 7. No substitution allowed for experience credit for Class IV and Class V. See Regulation 18 VAC 160-20-90.C.1.c.

Revised: 3/9/2005

# A. HAMPTON ROADS SANITATION DISTRICT APPRENTICESHIP PROGRAM

Operator experience credit may be given for grades of "C" or better for those plant and maintenance operators enrolled in the HRSD apprenticeship program. The Virginia Board has approved the following Training Courses and their Training Credits (TC's).

Courses approved December 10, 1992

Courses approved December 10, 1772	
	<u>TCs</u>
1. Pumps	1.6
2. Incineration	2.0
3. Wastewater Disinfection	2.0
4. Bearings, Lubrication & Gear Boxes	2.0
5. Introduction to Wastewater Treatment	2.0
6. Solids Thickening & Digestion	2.0
7. Chlorinator, Dechlorination O & M	2.0
8. Activated Sludge	2.1
9. Occupational Safety in the Wastewater Industry	2.1
10. Stream Ecology	2.1
11. Preventative Maintenance	2.1
12. Pumping Systems	2.1
13. Bearings, Lubrication, Piping & Valves	2.1
14. Preliminary Treatment & Odor Control	2.1
15. Primary Treatment and Chemical Addition	2.1
16. Instrumentation & Controls	2.1
17. Mechanical Drives, Seals, & Alignment	2.1
18. Solids, Dewatering, Disposal Utilization	2.1
19. Tertiary Treatment, Trickling Filters, RBC's & Ponds	2.1
20. Sanitary Chemistry	4.0
21. Activated Sludge, II & II	4.2
22. Wastewater Treatment I, II, & III	6.2
23. Wastewater Treatment Math	6.3
Courses approved March 19, 1992	
	TCs
24. Valves	$\overline{2.0}$
25. Reading Shop Prints & Schematics	2.1
26. Piping Systems	2.1
27. Industrial Waste & Regulations, I and II	4.0
28. Supervisory Management	4.2

For more information please contact: Mardane McLemore

P. O. Box 5000

Virginia Beach, VA 23455 Telephone: (757) 460-2261

### **B. VIRGINIA RURAL WATER ASSOCIATION**

	Course approved June 15-16, 1993		T.C.
1.	. Clean Water Act		$\frac{1 \text{Cs}}{0.6}$
	Courses approved July 21, 1993		TIC.
2. 3.	Wastewater Works Licensing Examinat Safe Drinking Water	ion Preparation	TCs 0.5 0.5
	Courses approved September 23, 1993		T.C
	Gas Chlorination Operation, Manageme Corrosion Control & Lead and Copper	-	TCs 0.5 0.5
	Courses approved July 20, 1994		TIC.
6. 7.	<ul><li>6. Waterworks Operator Licensing Examination Preparation</li><li>7. Cross-Connection &amp; Backflow Prevention</li></ul>		TCs 0.4 0.6
	Course approved October 5, 1995		
8.	Steel Storage Tank Inspection & Mainton	enance	$\frac{TCs}{0.5}$
	Course approved January 8, 1998		T.C.
9.	9. Collection of Drinking Water Samples		$\frac{TCs}{0.3}$
	Course approved June 15, 2000		TC
10. Establishing a Preventive Maintenance Management Program		$\frac{1 \text{Cs}}{0.3}$	
Fo	r more information please contact:	Rural Water Association Ken Coffman Telephone: (540) 261-7178	

# C. VPI WATER WORKS/WASTEWATER WORKS OPERATORS SHORT SCHOOL

Courses approved July 21, 1993

		TCs
1.	~ Introduction to Small Water Systems (Year One)	3.0
2.	~ Introduction to Water Surface Supply (Year One)	3.0
3.	~ Advanced Water Supply Operations (Year Three)	3.0
4.	* Introduction to Wastewater Treatment (I)	3.0
5.	* Wastewater Treatment Plant Operation (II)	3.0
6.	* Wastewater Treatment Troubleshooting (III)	3.0
7.	^ Water Treatment I (Introduction)	3.0
8.	^ Water Treatment II (Intermediate)	3.0
9.	^ Water Treatment III (Advanced)	3.0
	Course approved April 16, 1998	
		TCs
10	. ^ Fundamentals & Recent Developments in Water Treatment	2.4

- ~ Indicates training program sponsored by Dept. of Health
- \* Indicates training program is sponsored by Department of Environmental Quality (DEQ) in conjunction with VPI Short School.
- ^ Indicates training program sponsored by Dept. of Health in conjunction with VPI Short School

For more information please contact: Mark Anderson

Virginia Department of Health 1500 East Main Street, room 109

Richmond, VA 23219 Telephone: (804) 864-7514

#### OR

John W. Vanderland, Program Manager Operator Training & Assistance Water Division Department of Environmental Quality 629 East Main Street Richmond, VA 23219 Telephone: (804) 698-4092

## D. DEPARTMENT OF ENVIRONMENTAL QUALITY (DEQ)

(Formerly Virginia State Water Control Board)

<ul><li>2.</li><li>3.</li><li>4.</li></ul>	Wastewater Operator Correspondence Course Operator In-Service Training Basic Wastewater Licensure Review Advanced Wastewater Licensure Review Activated Sludge Process Control, Part I	TCs 4.0 0.5 2.3 2.3 2.0
	Courses approved January 5, 1995	TCs
	D.O. & Biochemical Oxygen Demand Workshop Total Residual Chlorine & Ph Workshop	1.0 1.0
	Course approved October 5, 1995	T.C
8.	Wastewater Sampling & Testing, Ammonia & TKN Workshop	$\frac{\text{TCs}}{1.0}$
	Course approved July 11, 1996	тСа
9.	Total & Volatile Suspended Solids Workshop	$\frac{\text{TCs}}{0.5}$
	Course approved October 3, 1996	тСа
10.	Chemical Oxygen Demand Workshop	$\frac{\text{TCs}}{0.5}$
	Course approved April 9, 1998	TC.
11.	Wastewater Sampling & Testing: Ammonia Nitrogen	$\frac{\text{TCs}}{0.5}$
	Course approved April 15, 1999	T.C
12.	Sampling & Testing for Small Wastewater Treatment Plants	$\frac{TCs}{1.0}$
	Course approved June 24, 1999	T.C.
13.	Wastewater Sampling & Testing Nitrate & Nitrite Nitrogen	$\frac{\text{TCs}}{1.0}$
	Course approved June 22, 2004	<u>TCs</u>

14. Activated Sludge Process Control, Par	t 2	2.0
Course approved June 22, 2004		
Course approved September 9, 2003		
15. Package Plant Operation		$\frac{TCs}{1.3}$
16. VPDES Permit Recordkeeping and Re	porting	$\frac{\text{TCs}}{0.35}$
Course approved June 15, 2005		
17. Introduction to Biological Nutrient Ren	noval	$\frac{\text{TCs}}{1.2}$
Course approved September 13, 2006		
18. Basic Lab Skills		$\frac{\text{TCs}}{1.0}$
Course approved March 7, 2007		
For more information please contact:	John W. Vanderland, Program P. Operator Training & Assistance F. 9 <sup>th</sup> Floor Department of Environmental Qu. P. O. Box 10009 Richmond, VA 23240-0009 Telephone: (804) 698-4092 E-mail: jwvanderla@deq.state.va	Program
E. JOHN TYLER COMMUNITY	COLLEGE	
Course approved September 23, 1993		TC.
1. Small Water Systems Operations (Applicable for Classes III, IV, V)		<u>TCs</u> 4.0
Course approved July 20, 1994		TC.
2. Drinking Water Bacteriological Labora	atory Workshop	$\frac{TCs}{2.0}$

For more information please contact: Greg Longacre

Director of Continuing Education 13101 Jefferson Davis Highway

Chester, VA 23831

Telephone: (804) 796-4111

### F. MICHIGAN STATE UNIVERSITY (MSU)

Courses approved September 23, 1993

		<u>1Cs</u>
1.	Maintenance Management in Water and Wastewater Field	3.0
2.	Supervisory Management in Water and Wastewater Field	3.0

For more information please contact: Virgil Langworthy

Michigan State University East Lansing, MI 48824-1047 Telephone: (517) 321-6074

# G. CENTRAL CAROLINA TECHNICAL COLLEGE/ENVIRONMENTAL TRAINING CENTER

Courses approved February 9, 1994

	<u>TCs</u>
1. Mechanical Maintenance for Water/Wastewater Operators	2.0
2. Pump Operation and Maintenance	2.0
3. Industrial Waste Treatment	1.9
Courses approved February 9, 1994 (continued)	
4. Basic Gas & Hypochlorite Chlorination	0.6
5. Testing Quality of Water Using Colilert Method	0.6
6. Coagulant Dosage Determination	0.6
7. Ground Water Treatment Systems Operators	2.0
8. Wastewater Collection Systems Short School (levels D, C, B, and A)	2.0
9. Chlorination Workshop for Water/Wastewater Treatment	0.6
Plant Operators	
10. Backflow Testers and Repair Course	1.9
11. Activated Sludge Microbiology	0.6
12. Activated Sludge Process Control	0.6
13. Activated Sludge Process Control	1.6
14. Basic Laboratory Skills Course	1.9
15. Troubleshooting O & M in Water Tmt. Plants	2.0
16. Troubleshooting O & M in Wastewater Tmt. Plants	2.0
17. Package Treatment Plant Operations for Wastewater	2.0
18. Advanced Water Treatment Course	2.0

19. Mathematics for "Trainee", "D" and "C" Certified	1.7
Wastewater Treatment Plant Operators	
20. Mathematics for "Trainee", "D" and "C" Certified Water	1.7
Treatment Plant Operators	
21. Maint. Mgmt. for Water/Wastewater Tmt. Plant Operators	2.0
22. Technical Supervision and Management	2.0
23. Analytical Quality Control	1.8
24. Wastewater Stabilization Lagoons (Ponds)	2.0
25. Cross Connection Control Training and Certification Course	1.4
26. Water Quality Laboratory Course	2.0
27. Sludge Management	1.3
28. Intermediate Laboratory Analysis Course	2.0
29. Laboratory Parameters Course	2.0
30. Water Distribution Systems Operation and Maintenance	2.0
Short School (For levels D, C, B, and A)	
31. Biological Wastewater Treatment Operators Short School	2.0
(Level D/Level C/Level B/Level A)	
32. Water Treatment Plant Operators Short School	2.0
(Level D/Level C/Level B/Level A)	
Courses approved February 9, 1994	
33. Physical/Chemical Wastewater Treatment Plant Operators	2.0
Short School (Level D/Level C/Level B/Level A)	

For more information please contact: Cleta Q. Smith

SC Environmental Training Center Central Carolina Technical College

506 N. Guignard Drive Sumter, SC 29150

Telephone: (803) 778-6656

### H. CALIFORNIA STATE UNIVERSITY (SACRAMENTO) COURSES

TITLE	Maximum Allowable Substitution			
	Class IV	Class III	Class II	Class I
Approved April 4, 1996:				
Operation of Wastewater Treatment Plants, Vol. II		4	2	1
2. Advanced Waste Treatment		2	3	4
3. Industrial Wastes, Volume I		1	2	4
4. Industrial Wastes, Volume II		1	2	4
5. Treatment of Metal Wastestreams		0	1	2
6. Pretreatment Facility Inspection		0	0	0

7. Operation & Maint. of Wastewater Collection Systems, Vol. I	2	0	0
8. Operation & Maint. of Wastewater Collection Systems, Vol.II	2	1	0
9. Water Treatment Plant Operation, Volume I	4	2	1
10.Water Treatment Plant Operation, Volume II	4	2	1
11.Small Water System Operation and Maintenance	2	0	0
12. Water Distribution system Operation and Maintenance	2	1	0
13.Operation of Wastewater Treatment Plants, Vol. I	4	2	1
Approved June 21, 2006			
14. Small Water Systems – WAT702A- Water Sources and Treatment*	0.4		
15. Small Water Systems – WAT702B – Wells*	0.4		
16. Small Water Systems – WAT702C – Small Water Treatment Plants*	0.4		
17. Small Water Systems – WAT702D – Disinfection*	0.4		
18. Small Water Systems – WAT702E – Water Rates/Safety*	0.4		
19. Small Water Systems – WAT702F – Laboratory*	0.4		
20. Small Water Systems Video Information Series*	1.2	0.6	
21. CE28A – Water Treatment Plant Operation I**	4	2	1
22. CE28B - Water Treatment Plant Operation II**	4	2	1
23. CE29 - Small Water System Operation and Maintenance**	2	0	0
24. Water Systems Operation and Maintenance Video Training Series	2.0	1.0	0
25. Small Wastewater System Operation and Maintenance, Volume I	2.0	2.0	2.0
26. Small Wastewater System Operation and Maintenance, Volume II	2.0	2.0	2.0
27. Utility Management	0.1	0.1	0.1
28. Manage for Success: Effective Utility Leadership Practices	1.7	1.7	1.7

<sup>\*</sup> These six courses are World Wide Web versions of the components of "Small Water System Operation and Maintenance" (number 11 above) and completion of all six earns a total of 2.4 TCs. As these six courses cover the same material as number 11, any person completing both courses will be granted TCs for only one of the two courses.

<sup>\*\*</sup> These three courses are versions of numbers 9, 10 and 11 above with an available on-line examination. Any person submitting a "Water Treatment Plant Operation Specialist Certificate Program" certificate indicating the completion of all three courses shall be eligible for the TCs earned in each course.

**For more information please contact:** Mark P. Mooshian

**Assistant Director** 

California State University, Sacramento

Office of Water Programs

6006 J Street

Sacramento, CA 95819-6025 Telephone: (919) 278-6142

Fax: (916) 278-5959

E-mail: wateroffice@csus.edu
Website: www.owp.csus.edu

#### I. TYSON FOODS, INC.

Course approved February 9, 1994

1. Industrial Pretreatment 2.9

For more information please contact: Herb Suggs

2210 Oaklawn P. O. Box 2020

Springdale, AR 72765 Telephone: (417) 235-3104

# J. TECHNICAL ASSOCIATION OF THE PULP AND PAPER INDUSTRY - TAPPI

Course approved February 9, 1994

1. Activated Sludge Plant Operations 1.4

Course approved July 20, 1994

2. Activated Sludge Short Course 0.6

For more information please contact: Karen Ventri

15 Technology Parkway Norcross, GA 30092

Telephone: (404) 446-1400

#### K. SPOTSYLVANIA VOCATIONAL CENTER

Courses approved October 6, 1994

**TCs** 1. Basic Waterworks Operator's License Review 2.3 2. Advanced Waterworks Operator's License Review 2.3

For more information please contact: Lee Browning

Apprenticeship Coordinator/

**Assistant Principal** 

6713 Smith Station Road Spotsylvania, VA 22553 Telephone: (703) 891-1784

#### L. AWWA-VIRGINIA SECTION-AWWA

Course approved April 6, 1995

TCs

1. Fire Hydrant & Water Main Maintenance

0.75

For more information please contact: Ms. Sherry L. Williams

AWWA-Virginia Section-AWWA

Lynchburg, Virginia

Telephone: (804) 867-9171

### M. VIRGINIA DEPARTMENT OF HEALTH-LEXINGTON ENVIRONMENTAL, HEALTH ENGINEERING FIELD OFFICE

Course approved April 6, 1995

1. Water Storage Tank Management Seminar

For more information please contact: Mr. Dough Caldwell

> Virginia Department of Health Lexington Environmental Health

1311 Walker Street Lexington, VA 24450 Telephone: (703) 463-3892

### N. INDIANA STATE UNIVERSITY OFFICE OF INDEPENDENT (CORRESPONDENCE) STUDY

Courses approved April 4, 1996

Supervision and Management for Working Professional, Courses I and II

		ICS
1.	Class III	0.3
2.	Class II	0.75
3.	Class I	1.2

For more information please contact: S. R. Wiersteiner, Ph.D.

Indiana State University

Office of Independent (Correspondence) Study

Terre Haute, Indiana 47809

#### O. LEWIS & ZIMMERMAN ASSOCIATES, INC.

Course approved October 9, 1997

1. Wastewater Training Program 8.0

For more information please contact: April Marshall

6110 Executive Boulevard, Suite 512

Rockville, MD 20852 Telephone: (301) 984-9590

#### P. VIRGINIA HIGHLANDS COMMUNITY COLLEGE

Course approved November 4, 1997

1. Water/Wastewater Treatment Computations 2.0

For more information please contact: Richard Hutton

Virginia Highlands Community College

140 Jonesboro Road Abingdon, VA 24210

Telephone: (540) 628-6094, Ext. 252

#### Q. WATER POLLUTION BIOLOGY

Course approved October 29, 1998

1. A Correspondence Course in Wastewater Microbiology: 1
Nitrification in the Activated Sludge Process

For more information please contact: Michael H. Gerardi

Water Pollution Biology 4164 U.S. Route 220 Linden, PA 17744

Telephone: (717) 398-7260

#### R. OPERATOR CERTIFICATION TRAINING, INC.

Courses approved October 29, 1998

		<u>TCs</u>
1.	Water Treatment Technology Review: Groundwater	0.65
	and Surface Water Plant Operations	
2.	Mathematics for Water Plant Operators Workshop, Grades I-III	1.30
3.	Disinfection of Public Water Supplies Workshop	0.65

For more information please contact: Katie L. Lewis

Administrator

Operator CERTIFICATION Training, Inc.

180 West Clarendon Street Gladstone, OR 97027 Telephone: (503) 650-2410

# S. FABL ENVIRONMENTAL REGULATORY SPECIALISTS, INC.

Courses approved October 29, 1999

		TCs
1.	Wastewater Clarifications, BOD5	$\overline{1.00}$
2.	Wastewater Clarifications, TSS	0.50
3.	Wonderful World of Widgets, Materials Flow Balance Exercise	1.00

For more information please contact: Regina B. Meehan, President

1102 Roe Ford Road Greenville, SC 29617 Telephone: (864) 246-6668

Web Site: www.environmental-training.com

#### T. WATER ENVIRONMENT FEDERATION

Courses approved June 15, 2000

1. Operations Training/Pumps Operation and Maintenance 2.00
2. Operations Training/Wastewater Treatment 4.00

Course approved September 21, 2000

3. Operations Training/Activated Sludge/Process Control  $\frac{\text{TC's}}{2.00}$ 

Course approved March 21, 2002

TC's

4. Operations Training/ Solids Handling

1.50

For more information please contact: Eileen J. O'Neill, Ph.D.

Assistant Deputy Director, Technical

601 Wythe Street Alexandria, VA 22314 Telephone: (703) 684-2400

#### U. DAVID H. PAUL, INC.

Courses approved December 21, 2000

Correspondence Study Courses. (Refer To Chart Below)

Course No.	Course Title	Class VI	Class V	Class IV	Class III	Class II	Class I
INWT 145	Math, Chemistry, Biology	2.0	2.0	1.0	1.0	0	0
INWT 146	Reverse Osmosis	2.0	2.0	2.0	2.0	1.0	1.0
INWT 147	R O Troubleshooting	2.0	2.0	2.0	2.0	1.0	0.5
INWT 160	High Purity Water from Ion Exchange	2.0	2.0	1.0	1.0	0	0
INWT 161	Ion Exchange Operation	2.0	2.0	1.0	1.0	1.0	1.0
INWT 162	Maintaining High Purity	2.0	2.0	0	0	0	0
INWT 255	Pretreatment Troubleshooting	2.0	2.0	1.5	1.5	0.5	0.5
INWT 256	Scaling and Fouling Troubleshooting	2.0	2.0	2.0	2.0	1.5	1.5
INWT 257	Advanced R O Monitoring/Cleaning	2.0	2.0	2.0	2.0	1.5	1.5
INWT 270	Feedwater & Pretreatment	2.0	2.0	1.0	1.0	0	0
INWT 271	Ion Exchange Troubleshooting	2.0	2.0	2.0	2.0	1.5	1.0
INWT 272	Post Ion Exchange	2.0	2.0	1.5	1.5	0.5	0.5

For more information please contact: Shawntay Wolfe-Martinez

David H. Paul, Inc. 1206 East 20<sup>th</sup>

Farmington, NM 87499 Telephone: (505) 326-3431

#### V. WATER POLLUTION BIOLOGY

Course approved March 22, 2001

1. Wastewater Microbiology 0.4

For more information please contact: Michael H. Gerardi

Wasterwater Biologist 196 Hemlock Lane Linden, PA 17744

Telephone: (570) 398-7260

#### W. MARYLAND CENTER FOR ENVIRONMENTAL TRAINING

Course approved March 11, 2003

1. Electrical Troubleshooting 0.7

For more information please contact: Karen Brandt

8730 Mitchell Road La Plata, MD 20646

Telephone: (301) 934-7500

#### X. WATER ENVIRONMENT FEDERATION

Course approved March 21, 2002

1. Operations Training/Solids Handling 1.5

For more information please contact: Steven Wisdom

601 Wythe Street

Alexandria, VA 22314-1994 Telephone: (703) 684-2400

TC'c

# Y. PENN STATE UNIVERSITY CONFERENCES AND INSTITUTES

Course approved December 13, 2001 TC's 1. Activated Sludge 0.6 Courses approved June 20, 2002 TC's 0.32. Settleability Problems and Loss of Solids 3. BOD and Metabolism 0.3 4. Nitrification 0.3 5. Denitrification 0.3 For more information please contact: Jeanne Fudrow 118 Keller Building University Park, PA 16802 Telephone: (814) 863-6106 Z. ALEXANDRIA SANITATION AUTHORITY Courses approved June 20, 2002

		TC's
1.	Biological Nutrient Removal (BNR) Overview	0.3
2.	BNR and Methanol	0.3
3.	Process Air	0.3
4.	SSTS, RAS, and WAS Systems	0.3
5.	Primary Effluent Pumping	0.3
6.	Solids Overview	0.3
7.	Centrifuge Thickening	0.3
8.	Filtration System	0.3

**For more information please contact:** Jerry Barrett

1500 Eisenhower Avenue Alexandria, Virginia 22314 Telephone: (703) 549-3381

### AA. CONTROL EQUIPMENT COMPANY

Courses approved September 19, 2002

		10 8
1.	Sodium Hypochlorite Disinfection	0.4
2.	UV Disinfection	0.4

For more information please contact: Dennis R. Wanless

1019 Campbell Avenue SE Roanoke, Virginia 24013

Telephone: 800-572-3220 or 434-973-5111

#### **BB. PETER L. LaMONTAGNE**

Courses approved March 8, 2004

1. Cost Effective Centrifugation 0.6

For more information please contact: Peter L. LaMontagne, PE

190 North Tamenend Avenue New Britain, PA 18901 Telephone: 215-348-7879

#### CC. MILLENENIUM SCIENCE & ENGINEERING, INC.

Courses approved March 9, 2004

1. Introduction to PLCs 0.5

For more information please contact: Ajit Louis, Training Coordinator

Millennium Science & Engineering, Inc.

1364 Beverly Road, Suite 302

McLean, VA 22101 Telephone: 703-734-1090